

Figure 1. Amino acid alignment of human CNG2B with rat OCNC2. Identical residues are shaded and numbers at the left margin indicate amino acid position.

1	M S Q D T K V K T T E S S P P A P S K A R K L L P V L D P S G D Y Y Y W W L N T	Cng2b.pro
1	M S Q D G K V K T T E S T P P A P T K A R K W L P V L D P S G D Y Y Y W W L N T	rOCNC2.PR
41	M V F P V M Y N L I I L V C R A C F P D L Q H G Y L V A W L V L D Y T S D L L Y	Cng2b.pro
41	M V F P I M Y N L I I V V C R A C F P D L Q H S Y L V A W F V L D Y T S D L L Y	rOCNC2.PR
81	L L D M V V R F H T G F L E Q G I L V V D K G R I S S R Y V R T W S F F L D L A	Cng2b.pro
81	L L D I G V R F H T G F L E Q G I L V V D K G M I A S R Y V R T W S F L L D L A	rOCNC2.PR
121	S L M P T D V V Y V R L G P H T P T L R L N R F L R A P R L F E A F D R T E T R	Cng2b.pro
121	S L V P T D A A Y V Q L G P H I P T L R L N R F L R V P R L F E A F D R T E T R	rOCNC2.PR
161	T A Y P N A F R I A K L M L Y I F V V I H W N S C L Y F A L S R Y L G F G R D A	Cng2b.pro
161	T A Y P N A F R I A K L M L Y I F V V I H W N S C L Y F A L S R Y L G F G R D A	rOCNC2.PR
201	W V Y P D P A Q P G F E R L R R Q Y L Y S F Y F S T L I L T T V G D T P P P A R	Cng2b.pro
201	W V Y P D P A Q P G F E R L R R Q Y L Y S F Y F S T L I L T T V G D T P L P D R	rOCNC2.PR
241	E E E Y L F M V G D F L L A V M G F A T I M G S M S S V I Y N M N T A D A A F Y	Cng2b.pro
241	E E E Y L F M V G D F L L A V M G F A T I M G S M S S V I Y N M N T A D A A F Y	rOCNC2.PR
281	P D H A L V K K Y M K L Q H V N R K L E R R V I D W Y Q H L Q I N K K M T N E V	Cng2b.pro
281	P D H A L V K K Y M K L Q H V N K R L E R R V I D W Y Q H L Q I N K K M T N E V	rOCNC2.PR
321	A I L Q H L P E R L R A E V A V S V H L S T L S R V Q I F Q N C E A S L L E E L	Cng2b.pro
321	A I L Q H L P E R L R A E V A V S V H L S T L S R V Q I F Q N C E A S L L E E L	rOCNC2.PR
361	V L K L Q P Q T Y S P G E Y V C R K G D I G Q E M Y I I R E G Q L A V V A D D G	Cng2b.pro
361	V L K L Q P Q T Y S P G E Y V C R K G D I G R E M Y I I R E G Q L A V V A D D G	rOCNC2.PR
401	I T Q Y A V L G A G L Y F G E I S I I N I K G N M S G N R R T A N I K S L G Y S	Cng2b.pro
401	V T Q Y A V L G A G L Y F G E I S I I N I K G N M S G N R R T A N I K S L G Y S	rOCNC2.PR
441	D L F C L S K E D L R E V L S E Y P Q A Q T I M E E K G R E I L L K M N K L D V	Cng2b.pro
441	D L F C L S K E D L R E V L S E Y P Q A Q A V M E E K G R E I L L K M N K L D V	rOCNC2.PR
481	N A E A A E I A L Q E A T E S R L R G L D Q Q L D D L Q T K F A R L L A E L E S	Cng2b.pro
481	N A E A A E I A L Q E A T E S R L K G L D Q Q L D D L Q T K F A R L L A E L E S	rOCNC2.PR
521	S A L K I A Y R I E R L E W Q T R E W P M P E D L A E A D D E G E P E E G T S K	Cng2b.pro
521	S A L K I A Y R I E R L E W Q T R E W P M P E D M G E A D D E A E P G E G T S K	rOCNC2.PR
561	D E E G R A S Q E G P P G P E	Cng2b.pro
561	D G E G K A G Q A G P S G I E	rOCNC2.PR

Figure 2: human CNG2B sequence derived from assembly of PCR fragments

AGAGGGGAGGAGGAAAACAGAGACAAGACTCAGGCTTCCCTCTGAGGCATGCACCCCCACCTTCTCCAGGGATCTCA  
TTAGAGGTGTTTTAGCTGGGCAAGGTGTAAGCCAGGCCCTGGGAGACAGGGCAGAGTGCTAGAGCTAGACTGTCTCCA  
CCCCCTTCAGTAGCGCTAGCTCTGGTTGTGTTGCTAAGAGCCCCAAAGACAAAGAAGTCACAGCAGAAGCCCCAACAGC  
AGCCTCCTTCAGACAGTCAGGCACTAGTGCCCAACTCCAGAAGTCCCCTACAGGCAGAGAGGGTGTGGACATCTCAC  
ACCCCAGCACCAGACCACAGAACCATGAGCCAGGACACCAAAGTGAAGACAACAGAGTCCAGTCCCCCAGCCCCATC  
CAAGGCCAGGAAGTTGCTGCCTGTCTGGACCCATCTGGGGATTACTACTACTGGTGGCTGAACACAATGGTCTTCC  
CAGTCATGTATAACCTCATCATCCTCGTGTGCAGAGCCTGCTTCCCCGACTTGCAGCACGGTTATCTGGTGGCCTGG  
TTGGTGTCTGGACTACACGAGTGACCTGCTATACCTACTAGACATGGTGGTGCCTTCCACACAGGATTCTTGGAACA  
GGGCATCCTGGTGGTGGACAAGGGTAGGATCTCGAGTCGCTACGTTTCGCACCTGGAGTTTCTTCTTGGACCTGGCTT  
CCCTGATGCCCCACAGATGTGGTCTACGTGCGGCTGGGCCCCGACACACCCACCCTGAGGCTGAACCGCTTCTCCGC  
GCGCCCCGCTCTTCGAGGCCCTTCGACCGCACAGAGACCCGACAGCTTACCCAAATGCCTTTCGCATTGCCAAGCT  
GATGCTTTACATTTTTGTCTCATCCATTGGAACAGCTGCCTATACTTTGCCCTATCCCGGTACCTGGGCTTCGGGC  
GTGACGCATGGGTGTACCCGACCCCGCGCAGCCTGGCTTTGAGCGCCTGCGGCGCCAGTACCTCTATAGCTTTTAC  
TTCTCCACGCTGATACTGACTACAGTGGGCGATACACCGCCGCCAGCCAGGGAAGAAGAGTACCTCTTCATGGTGGG  
CGACTTCCTGCTGGCCGTCATGGGTTTCGCCACCATCATGGGTAGCATGAGCTCTGTCTATCTACAACATGAACACTG  
CAGATGCGGCTTTCTACCCAGATCATGCACTGGTGAAGAAGTACATGAAGCTGCAGCACGTCAACCGCAAGCTGGAG  
CGGCGAGTTATTGACTGGTATCAGCACCTGCAGATCAACAAGAAGATGACCAACGAGGTAGCCATCTTACAGCACTT  
GCCGTGAGCGGCTGCGGGCAGAAGTGGCTGTGTCTGTGCACCTGTCCACTCTGAGCCGGGTGCAGATCTTTTCAGAACT  
GTGAGGCCAGCCTGCTGGAGGAGCTGGTGTGCTGAAGCTGCAGCCCCAGACCTACTCACCAGGTGAATATGTATGCCGC  
AAAGGAGACATTGGCCAAGAGATGTACATCATCCGAGAGGGTCAACTGGCCGTGGTGGCAGATGATGGTATCACACA  
GTATGCTGTGCTCGGTGCAGGGCTCTACTTTGGGGAGATCAGCATCATCAACATCAAAGGGAACATGTCTGGGAACC  
GCCGCACAGCCAACATCAAGAGCCTAGGTATTTCAGACCTATTCTGCCTGAGCAAGGAGGACCTGCGGGAGGTGCTG  
AGCGAGTATCCACAAGCACAGACCATCATGGAGGAGAAAGGACGTGAGATCCTGCTGAAAATGAACAAGTTGGACGT  
GAATGCTGAGGCAGCTGAGATCGCCCTGCAGGAGGCCACAGAGTCCCGGCTACGAGGCCTAGACCAGCAGCTGGATG  
ATCTACAGACCAAGTTTGTCTGCCTCCTGGCTGAGCTGGAGTCCAGCGCACTTAAGATTGCTTACCGCATTGAACGG  
CTGGAGTGGCAGACTCGAGAGTGGCCAATGCCCCGAGGACCTGGCTGAGGCTGATGACGAGGGTGAGCCTGAGGAGGG  
AACTTCCAAAGATGAAGAGGGCAGGGCCAGCCAGGAGGGACCCCCAGGTCCAGAGTGACCCCATCCCCATCCCCAGG  
ATTCCCACCTCCTAGTGAATCCAGAGTTGTAGTAAAGCCTAACTGCTGCAACTCTGTCTATCCTGTCTGCGAGATCAC  
AGACACAGGAGCGAATTGGTCTGTAGATGCCCAGCTAGAGATATAGGAGTTTAACGCACATTTCAGCCCCCACTTACC  
AGTACACACACACACACACACACACATTTGCTCATAGACCTGTTGGCCCCAAGACTGTGCATTCCATCTAA

Figure 3

CNG2B Coding Sequence

ATGAGCCAGGACACCAAAGTGAAGACAACAGAGTCCAGTCCCCCAGCCCCATCCAAGGCCAGGAAGTTGCTGCCTGT  
CCTGGACCCATCTGGGGATTACTACTACTGGTGGCTGAACACAATGGTCTTCCCAGTCATGTATAACCTCATCATCC  
TCGTGTGCAGAGCCTGCTTCCCCGACTTGACAGCACGGTTATCTGGTGGCCTGGTTGGTGTCTGGACTACACGAGTGAC  
CTGCTATACCTACTAGACATGGTGGTGGCGCTTCCACACAGGATTCTTGGAACAGGGCATCCTGGTGGTGGACAAGGG  
TAGGATCTCGAGTCGCTACGTTTCGCACCTGGAGTTTCTTCTTGGACCTGGCTTCCCTGATGCCCCACAGATGTGGTCT  
ACGTGCGGCTGGGCGCGCACACACCCACCTGAGGCTGAACCGCTTTCTCCGCGCGCCCCGCTCTTCGAGGCCTTC  
GACCGCACAGAGACCCGCGACAGCTTACCCAAATGCCTTTTCGCATTGCCAAGCTGATGCTTTACATTTTTGTCTCAT  
CCATTGGAACAGCTGCCATATACTTTGCCCTATCCCGGTACCTGGGCTTCGGGCGTGACGCATGGGTGTACCCGGACC  
CCGCGCAGCCTGGCTTTGAGCGCCTGCGGCGCCAGTACCTCTATAGCTTTTACTTCTCCACGCTGATACTGACTACA  
GTGGGCGATACACCGCCGCCAGCCAGGGAAGAAGAGTACCTCTTCATGGTGGGCGACTTCCTGCTGGCCGTCATGGG  
TTTCGCCACCATCATGGGTAGCATGAGCTCTGTCTTACAACATGAACACTGCAGATGCGGCTTTCTACCCAGATC  
ATGCACTGGTGAAGAAGTACATGAAGCTGCAGCACGTCAACCGCAAGCTGGAGCGGCGAGTTATTGACTGGTATCAG  
CACCTGCAGATCAACAAGAAGATGACCAACGAGGTAGCCATCTTACAGCACTTGCCTGAGCGGCTGCGGGCAGAAGT  
GGCTGTGTCTGTGCACCTGTCCACTCTGAGCCGGGTGCAGATCTTTCAGAACTGTGAGGCCAGCCTGCTGGAGGAGC  
TGGTGTCTGAAGCTGCAGCCCCAGACCTACTCACCAGGTGAATATGTATGCCGCAAAGGAGACATTGGCCAAGAGATG  
TACATCATCCGAGAGGGTCAACTGGCCGTGGTGGCAGATGATGGTATCACACAGTATGCTGTGCTCGGTGCAGGGCT  
CTACTTTGGGGAGATCAGCATCATCAACATCAAAGGGAAACATGTCTGGGAACCGCCGCACAGCCAACATCAAGAGCC  
TAGGTTATTTCAGACCTATTCTGCCTGAGCAAGGAGGACCTGCGGGAGGTGCTGAGCGAGTATCCACAAGCACAGACC  
ATCATGGAGGAGAAAGGACGTGAGATCCTGTCTGAAAATGAACAAGTTGGACGTGAATGCTGAGGCAGCTGAGATCGC  
CCTGCAGGAGGCCACAGAGTCCCGGCTACGAGGCCTAGACCAGCAGCTGGATGATCTACAGACCAAGTTTGCTCGCC  
TCCTGGCTGAGCTGGAGTCCAGCGCACTTAAGATTGCTTACCGCATTGAACGGCTGGAGTGGCAGACTCGAGAGTGG  
CCAATGCCCCGAGGACCTGGCTGAGGCTGATGACGAGGGTGAGCCTGAGGAGGGAACTTCCAAGATGAAGAGGGCAG  
GGCCAGCCAGGAGGGACCCCCAGGTCCAGAGTGA

Figure 4  
CNG2B Amino Acid Sequence

MSQDTKVKTTESSPPAPSKARKLLPVLDPSGDYYYWWLNTMVFPVMYNLIILVCRACFPDLQHGYLVAWLVLDTSD  
LLYLLDMVVRFHTGFLEQGILVVDKGRISRYVRTWSFFLDLASLMPTDVVYVRLGPHTPTLRLNRFLRAPRLF  
DRTETRTAYPNAFRIAKMLYIFVVIHWNSCLYFALSRYLGFGDAWVYPDPAQPGFERLRQYLYSFYFSTLILT  
VGDTPPPAREEEYLFMVGDFLLAVMGFATIMGSMSSVIYNMNTADAAFYPDHALVKKYMKLQHVNRKLERRVIDWYQ  
HLQINKKMTNEVAILQHLPRLRAEVAVSVHLSTLSRVQIFQNCESLLEELVLKLQPQTYSPEYVCRKGDIGQEM  
YIIREGQLAVVADDGITQYAVLGAGLYFGEISIINIKGNMSGNRRRTANIKSLGYSDLFCLSKEDLREVLSEYPQAQT  
IMEEKGREILLKMNKLDVNAEAEIALQEATESRLRGLDQQLDDLQTKFARLLAELESSALKIAYRIERLEWQTREW  
PMPEDLAEADDEGEPEEGTSKDEEGRASQEGPPGPE

MSQDTKVKTTESSPPAPSKARKLLPVLDPSGDYYYWWLNTMVFPVMYNLIILVCRACFPDLQHGYLVAWLVLDTSD  
LLYLLDMVVRFHTGFLEQGILVVDKGRISRYVRTWSFFLDLASLMPTDVVYVRLGPHTPTLRLNRFLRAPRLF  
DRTETRTAYPNAFRIAKMLYIFVVIHWNSCLYFALSRYLGFGDAWVYPDPAQPGFERLRQYLYSFYFSTLILT  
VGDTPPPAREEEYLFMVGDFLLAVMGFATIMGSMSSVIYNMNTADAAFYPDHALVKKYMKLQHVNRKLERRVIDWYQ  
HLQINKKMTNEVAILQHLPRLRAEVAVSVHLSTLSRVQIFQNCESLLEELVLKLQPQTYSPEYVCRKGDIGQEM  
YIIREGQLAVVADDGITQYAVLGAGLYFGEISIINIKGNMSGNRRRTANIKSLGYSDLFCLSKEDLREVLSEYPQAQT  
IMEEKGREILLKMNKLDVNAEAEIALQEATESRLRGLDQQLDDLQTKFARLLAELESSALKIAYRIERLEWQTREW  
PMPEDLAEADDEGEPEEGTSKDEEGRASQEGPPGPE